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May 29, 2001

## BOX PCT

Commissioner for Patents  
Washington, D.C. 20231

PCT/CH00/00517  
-filed September 25, 2000

Re: Application of Paul BÖESCH  
SHOWERHEAD  
Assignee: WEIDMANN PLASTICS TECHNOLOGY AG  
Our Ref: Q63932

Dear Sir:

The following documents and fees are submitted herewith in connection with the above application for the purpose of entering the National stage under 35 U.S.C. § 371 and in accordance with Chapter I of the Patent Cooperation Treaty:

- an executed Declaration and Power of Attorney.
- an English translation of the International Application.
- two (2) sheets of drawings.
- an executed Assignment and PTO 1595 form.
- a Preliminary Amendment

It is assumed that copies of the International Application, the International Search Report, the International Preliminary Examination Report, and any Articles 19 and 34 amendments as required by § 371(c) will be supplied directly by the International Bureau, but if further copies are needed, the undersigned can easily provide them upon request.

Assignment for published patent application is: **WEIDMANN PLASTICS TECHNOLOGY AG**.

The Government filing fee is calculated as follows:

Total claims	13	-	20	=	x \$18.00 =	\$0.00
Independent claims	1	-	3	=	x \$80.00 =	\$0.00
Base Fee						\$1000.00

<b>TOTAL FILING FEE</b>	<u>\$1000.00</u>
<b>Recordation of Assignment</b>	<u>\$40.00</u>
<b>TOTAL FEE</b>	<u>\$1040.00</u>

Checks for the statutory filing fee of \$1000.00 and Assignment recordation fee of \$40.00 are attached. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.492 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

Priority is claimed from September 29, 1999 based on Switzerland Application No. 1777/99.

Respectfully submitted,

Robert J. Seas, Jr.  
Registration No. 61,092

RJS/amt

09/856958

531 Rec'd PCT

29 MAY 2001

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Paul BÖESCH

Appln. No.: PCT/CH00/00517

Group Art Unit: Not Yet Assigned

Confirmation No.: Not Yet Assigned

Examiner: Not Yet Assigned

Filed: May 29, 2001

For: SHOWERHEAD

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

**IN THE CLAIMS:**

**Page 7, please delete the title and insert the following new title:**

**Claims**

**The claims are amended as follows:**

3. Showerhead according to claim 1, characterized in that the cover (1) has a preferably round opening (1d), in which the membrane (2) is inserted flush with the exterior.
4. Showerhead according to claim 1, characterized in that the cover (1) is arranged in a rotating fashion on the valve body (5) or the outer casing (6).
5. Showerhead according to claim 1, characterized in that the cover (1) forms a domed unit with the membrane (2).
6. Showerhead according to claim 1, characterized in that the shut-off (9) has a relatively wide button (3) below the membrane (2).

AMENDMENT

Attorney Docket No. Q63932

8. Showerhead according to claim 6, characterized in that the button (3) is positioned on a guide curve (5a) of the valve body (5) for switching the shut-off (9).
9. Showerhead according to claim 8, characterized in that the button (3) has ribs (3b) on its underside, which glide along the guide curve (5a) when switched.
10. Showerhead according to claim 6, characterized in that a spring (7) serving as both a garter spring and a torsional spring is arranged between the button (3) and the valve body (5).
11. Showerhead according to claim 1, characterized in that the membrane is dome-shaped in design.
12. Showerhead according to claim 1, characterized in that the membrane is molded to the cover, preferably injection molded.
13. Showerhead according to claim 1, characterized in that the shut-off (9) is stopped after being switched.

**IN THE ABSTRACT:**

Page 9, please delete the title and insert the following new title:

**Abstract**

**REMARKS**

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,



\_\_\_\_\_  
Robert L. Seas, Jr.  
Registration No. 21,092

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Date: May 29, 2001

## AMENDMENT

Attorney Docket No. Q63932

APPENDIXVERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

Page 7, first line:

**Patent Claims****The claims are amended as follows:**

3. Showerhead according to claim 1 or 2, characterized in that the cover (1) has a preferably round opening (1d), in which the membrane (2) is inserted flush with the exterior.
4. Showerhead according to one of the claims 1 to 3 claim 1, characterized in that the cover (1) is arranged in a rotating fashion on the valve body (5) or the outer casing (6).
5. Showerhead according to one of the claims 1 to 4 claim 1, characterized in that the cover (1) forms a domed unit with the membrane (2).
7. Showerhead according to one of the claims 1 to 5 claim 1, characterized in that the shut-off (9)  
has a relatively wide button (3) below the membrane (2).
8. Showerhead according to claim 6 or 7, characterized in that the button (3) is positioned on a guide curve (5a) of the valve body (5) for switching the shut-off (9).
9. Showerhead according to claim 8, characterized in that the button (3) has ribs (3b) on its underside, which glide along the guide curve (5a) when switched.
10. Showerhead according to one of the claims 6 to 9 claim 6, characterized in that a spring (7) serving as both a garter spring and a torsional spring is arranged between the button (3) and the valve body (5).
11. Showerhead according to one of the claims 1 to 10 claim 1, characterized in that the membrane is dome-shaped in design.
12. Showerhead according to claims 1 to 11 claim 1, characterized in that the membrane is molded to the cover, preferably injection molded.

AMENDMENT

Attorney Docket No. Q63932

13. Showerhead according to ~~one of the claims 1 to 12~~claim 1, characterized in that the shut-off (9) is stopped after being switched.

**IN THE ABSTRACT OF DISCLOSURE:**

Page 9, first line:

**SummaryAbstract**

**Showerhead**

The invention relates to a showerhead with an outer casing, in which is arranged an adjustable valve with a valve body and a shut-off passing through this valve body. One end of the shut-off is arranged below a membrane that can be pressed in to adjust the shut-off, which changes the shower setting by pressing in the membrane from a first valve position to a second valve position against the retroactive force of a spring. There is also a reset mechanism, with which the shut-off can be moved from a second valve position to a first valve position against hydraulic pressure.

Showers of this type are generally known. They allow an adjustment of the jet, such as from a perlator to a spray. In such a process, the membrane is pressed in, moving the valve shut-off to a lower valve position. If there is adequate hydraulic pressure, the shut-off is held in this position and the water makes its way through openings that produce a spray. If the hydraulic pressure is less than 0.5 bar, for example, the spray setting is maintained. In order to switch back to the perlator setting, the shut-off must be lifted again. In the shower described in patent EP-A-0695490, this lifting takes place by means of a lever that is linked to the upper end of the valve body and arranged below the membrane. There are also other setting mechanisms with which the valve body can be lifted. One particular disadvantage of the implementation with the adjustment lever mentioned above is the relatively unfavorable handling, since activation requires finding the proper position of the membrane. The handling is made somewhat clearer through appropriate marking, however in many cases this is not practical.

The task of the present invention is to provide a shower of the type mentioned above, which is easy to operate and can nevertheless be manufactured with a small number of sturdy parts. The shower should also function well and be inexpensive to produce.

This task is solved through the shower of the type according to claim 1.

In the showerhead according to the present invention, the membrane is therefore integrated in a rotating cover. The membrane is domed, protruding on the upper side of the showerhead. Feeling for the suitable position on the membrane is therefore not necessary.

One important characteristic of the present invention is that the membrane and the cover can be produced as one unit with no space between them. Known showers of this type often have a groove below the handle. In the showerhead according to the present invention, such an interim space can be eliminated by arranging the membrane in the cover. This is especially advantageous for hygienic reasons and allows for easy cleaning of the showerhead.

The showerhead according to the present invention is reset by turning the cover, which at the same time turns the membrane integrated in the cover. Turning the cover is very simple and ergonomic. For example, a radially protruding activating knob can be molded on the cover.

The valve is preferably switched via a guide curve arranged on the valve body, which lifts the shut-off when the cover is turned. The valve is reset when the cover is turned clockwise or counterclockwise. A further development in which the position of the valve is stopped when the cover is turned in one direction is also conceivable. The advantage of such a stop is that the spray setting is maintained even if the hydraulic pressure drops below 0.5 bar.

The shut-off is preferably operated by a button-shaped button arranged at the upper end of the shut-off. This button preferably has a bowed surface on its upper side, which extends somewhat parallel to the underside of the membrane. The extension is preferably

large enough that the button can basically be moved downward to each position of the membrane.

According to a further development of the present invention, the cover is ring-shaped and the membrane is basically circular as viewed from above. The membrane is preferably snapped into the cover, or directly molded onto the cover in a two-polymer process. Such a process eliminates one part and simplifies the assembly process.

The dependent patent claims, the following description and the drawing yield further advantageous characteristics.

One sample implementation of the present invention is explained in more detail below with the help of the drawing, in which:

Figure 1 shows a cross sectional view of the showerhead according to the present invention, along line I-I of Figure 2,

Figure 2 shows a top view of the showerhead according to the present invention and

Figure 3 shows a cross sectional view through one part of the showerhead, along line III-

III of Figure 2.

The showerhead has a casing 6 provided with a head piece 6a, onto which is molded a tube piece 6b, only a portion of which is shown here. The head piece 6a lifts a valve body 5 that is anchored in the casing 6 by prop cams 5d. A tubular insert 11 can be connected to the end of the water pipe, not shown here, in the usual manner. Said insert 11 directs the water through a passageway 11a to an opening 12 of the valve body 5. The insert 11 butts flush against the valve body 5 and is securely attached to the valve body 5 by a bolt 8 pushed in from above, and is also detachable.

According to Figure 3, the valve body 5 has an inner thread 15, into which a sieve 4 is screwed. Between the sieve 4 and the valve casing 5 is a cylindrical insert 10, which is

interconnected at its circumference to the valve body 5 and which has a passageway 14. The sieve 4 is provided with a plurality of relatively small jet openings 18 for producing a spray.

In the valve body 5 is a shut-off 9 that has a valve position 9a, which in Figure 1 lies flush against a first and upper valve position 16. A cup-shaped button 3 is braced on the upper end of the shut-off 9. Said button 3 is held in the position shown in Figure 1 by a garter spring 7. This garter spring 7 is at the same time a torsional spring, which is explained in more detail below.

The button 3 has two radially protruding driver cams 3a, each of which is routed between two guide cams 1b, which is especially clear in Figure 2. Said guide allows a vertical movement of the button 3 as well as the shut-off 9 in the cover 1.

A cover 1 is ring-shaped in design and has an upper round opening 1d, in which an elastic rubber membrane 2 is inserted. The membrane 2 is preferably braced on the cover 1 by means of prop cams 2a. The membrane 2 is partially spherical in design and has a large protruding area on top and in the middle. The membrane 2 also lies flush against the exterior of the ring-shaped cover 1. The cover 1 is secured to the valve body 5, preferably by means of a bayonet or prop connection.

Below the membrane 2 is a button 3, which has an upper side 3d that runs parallel to the membrane 2 and basically extends over the area of the opening 1d.

In the position shown in Figure 1, the shut-off 9 is in a position in which the water streams through the canal 11a into the canal 14 and from there exits through an opening 20. Another insert 21 produces the above mentioned perlator setting. The production of such a perlator jet is generally known to experts.

If the membrane 2 is pressed in according to Figure 1 in the direction of the arrow A, the button 3 is lifted by the membrane and the valve plate 9a is lifted against the retroactive force of the spring 7 from the first valve position 16 and moves against the second valve

position 17. The inpouring water now flows from the opening 12 into the canal 13 and from there through another opening 22 into a ring canal 23 and from there exits through the jet openings 18 as a spray.

The shower is therefore switched from the perlator setting to the spray setting by pressing the membrane 2. If the hydraulic pressure is greater than 0.5 bar, for example, the water holds the shut-off 9 in this position against the retroactive force of the spring 7. In order to switch the valve, the cover 1 is turned clockwise around axis B by means of the protruding knob 1c shown in Figure 1. In this process, two ribs 3b of the button 3 intervene with guide curves 5a molded onto the valve body 5. Through this intervention, the button 3 is moved upward with the support of the spring 7. Stops 5e restrict this movement. The pre-stressed spring 7 forces the button 3 against the stop cam 5f. This movement of the button 3 places the garter spring 7 under tension. If the cover 1 is released, the spring 7 swings the button 3 around the axis B back into the position shown in Figure 2. In order for this spring 7 to function as a torsion spring, its ends are accordingly supported in a groove 5c of the valve body 5 and in a groove of the button 3, not shown in detail here.

After the switch, the valve plate 9a once again lies against the first valve position 16 as shown in Figure 1. The water flows through the opening 12 into the canal 14, as mentioned above. This position is maintained by any hydraulic pressure. As mentioned above, the setting is switched by pressing the membrane 2 in the direction of arrow A. Since, as mentioned above, the membrane 2 protrudes upward and has a large surface, the membrane 2 can also be pressed with the ball of the hand, whereby the showerhead is simultaneously held from the front. Usually, the showerhead is held by hand on the tube part 6b during activation. The pressure point on membrane 2 is not critical, thus it is not necessary to find a certain position. As mentioned above, the shower is reset by turning the cover 1, preferably by means

of a protruding knob 1c. As is clear here, the showerhead is for the most part sealed and protected against the penetration of dirt. This is a critical aspect, especially where there are special hygiene requirements.

The present invention therefore makes possible the manufacture of an adjustable showerhead with relatively few sturdy parts, which functions well and is quite ergonomic.

## **Patent Claims**

1. Showerhead with an outer casing (6), in which is arranged an adjustable valve with a valve body (5) and a shut-off (9) routed through this valve body (5), whereby one end of said shut-off (9) is arranged below a membrane (2) that can be pressed in so that the shut-off (9) can be adjusted to change the stream setting by pressing in the membrane (2) against the retroactive force of a spring (7) from a first valve position (16) to a second valve position (17), with a reset mechanism, whereby the shut-off (9) can be moved from one valve position (17) to another valve position (16), characterized in that the membrane (2) is arranged in a rotating cover (1) and that the shut-off (9) can be moved by rotating the cover (1) from one valve position (17, 16) to the other valve position (16, 17).

2. Showerhead according to claim 1, characterized in that the rotating cover (1) is ring-shaped in design.

3. Showerhead according to claim 1 or 2, characterized in that the cover (1) has a preferably round opening (1d), in which the membrane (2) is inserted flush with the exterior.

4. Showerhead according to one of the claims 1 to 3, characterized in that the cover (1) is arranged in a rotating fashion on the valve body (5) or the outer casing (6).

5. Showerhead according to one of the claims 1 to 4, characterized in that the cover (1) forms a domed unit with the membrane (2).

6. Showerhead according to one of the claims 1 to 5, characterized in that the shut-off (9)

has a relatively wide button (3) below the membrane (2).

7. Showerhead according to claim 6, characterized in that the button (3) is positioned inside the cover (1) in an adjustable manner.

8. Showerhead according to claim 6 or 7, characterized in that the button (3) is positioned on a guide curve (5a) of the valve body (5) for switching the shut-off (9).

9. Showerhead according to claim 8, characterized in that the button (3) has ribs (3b) on its underside, which glide along the guide curve (5a) when switched.
10. Showerhead according to one of the claims 6 to 9, characterized in that a spring (7) serving as both a garter spring and a torsional spring is arranged between the button (3) and the valve body (5).
11. Showerhead according to one of the claims 1 to 10, characterized in that the membrane is dome-shaped in design.
12. Showerhead according to claims 1 to 11, characterized in that the membrane is molded to the cover, preferably injection molded.
13. Showerhead according to one of the claims 1 to 12, characterized in that the shut-off (9) is stopped after being switched.

## **Summary**

The showerhead has an outer casing (6), in which is arranged an adjustable valve with a valve body (5) and a shut-off (9) routed through this valve body (5). One end of the shut-off (9) is arranged below a membrane (2) that can be pressed in so that the shut-off (9) can be adjusted to change the stream setting by pressing in the membrane (2) against the retroactive force of a spring (7) from a first valve position (16) to a second valve position (17). Reset mechanisms are provided, with which the shut-off (9) can be moved from a first valve position (17) to another valve position (16). The membrane (2) is arranged in a rotating cover (1) and the shut-off (9) can be moved by rotating the cover (1) from one valve position (16, 17) to the other valve position (16, 17).

Fig. 1

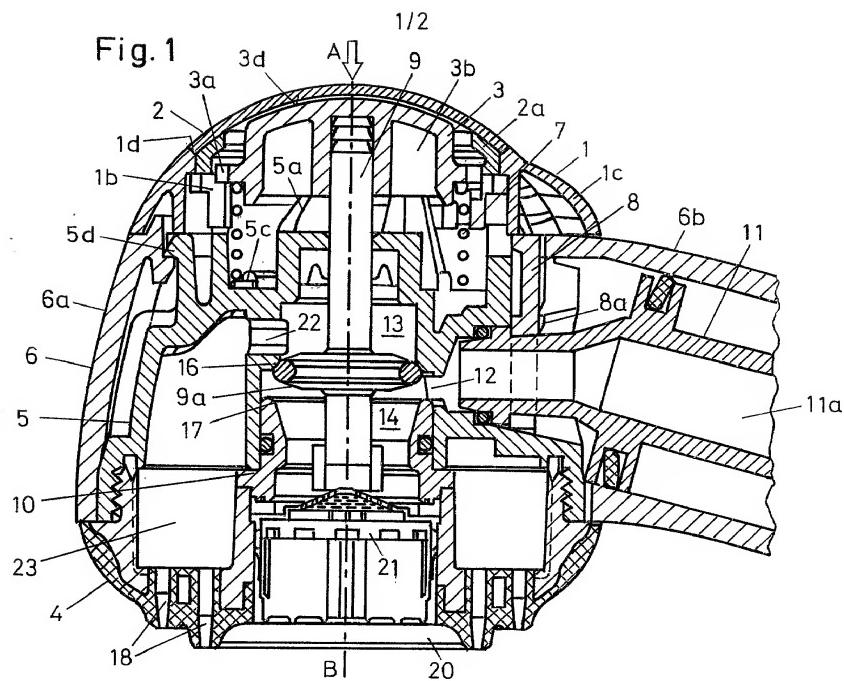


Fig. 2

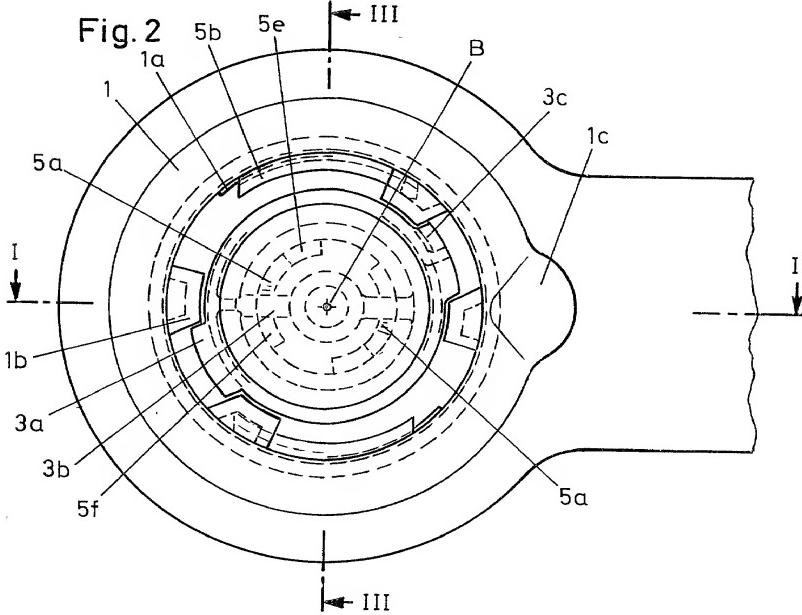
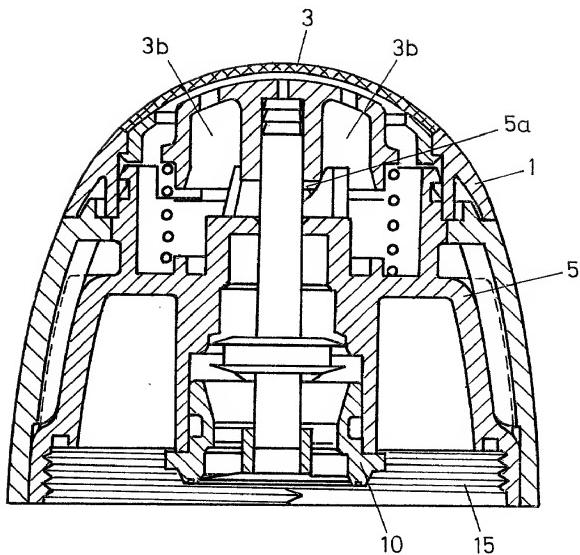


Fig. 3



# Declaration and Power of Attorney for Patent Application

## Erklärung für Patentanmeldungen mit Vollmacht

### German Language Declaration

Als nachstehend benannter Erfinder erkläre ich hiermit an Eides Statt:

dass mein Wohnsitz, meine Postanschrift und meine Staatsangehörigkeit den im nachstehenden nach meinem Namen aufgeführten Angaben entsprechen, dass ich nach bestem Wissen der ursprüngliche, erste und alleinige Erfinder (falls nachstehend nur ein Name angegeben ist) oder ein ursprünglicher, erster und Miterfinder (falls nachstehend mehrere Namen aufgeführt sind) des Gegenstandes bin, für den dieser Antrag gestellt wird und für den ein Patent für die Erfindung mit folgendem Titel beantragt wird:

deren Beschreibung hier beigefügt ist, es sei denn (in diesem Falle Zutreffendes bitte ankreuzen), diese Erfindung

- wurde angemeldet am \_\_\_\_\_ unter der US-Anmeldenummer oder unter der Internationalen Anmeldenummer im Rahmen des Vertrags über die Zusammenarbeit auf dem Gebiet des Patentwesens (PCT) \_\_\_\_\_ und am \_\_\_\_\_ abgeändert (falls zutreffend).

Ich bestätige hiermit, dass ich den Inhalt der oben angegebenen Patentanmeldung, einschließlich der Ansprüche, die eventuell durch einen oben erwähnten Zusatzantrag abgeändert wurde, durchgesehen und verstanden habe.

Ich erkenne meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Titel 37, Code of Federal Regulations, § 1.56 von Belang sind.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

### SHOWERHEAD

the specification of which is attached hereto unless the following box is checked:

- was filed on September 25, 2000 as United States Application Number or PCT International Application Number PCT/CH00/00517 (Confirmation No. \_\_\_\_\_) and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

## German Language Declaration

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäß Title 35, US-Code, § 119 (a)-(d), bzw. § 365(b) aller unten aufgeführten Auslandsanmeldungen für Patente oder Erfinderurkunden, oder § 365(a) aller PCT internationalen Anmeldungen, welche wenigstens ein Land außer den Vereinigten Staaten von Amerika benennen, und habe nachstehend durch ankreuzen sämtliche Auslandsanmeldungen für Patente bzw. Erfinderurkunden oder PCT internationale Anmeldungen angegeben, deren Anmeldetag dem der Anmeldung, für welche Priorität beansprucht wird, vorangeht.

Prior foreign applications  
(Frühere ausländische Anmeldungen)

1777/99 (Number) (Nummer)	Switzerland (Country) (Land)
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 (Number) (Nummer) <small>1777/99</small>	 (Country) (Land)
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Ich beanspruche hiermit Prioritätsvorteile unter Title 35, US-Code, § 119(e) aller US-Hilfsanmeldungen wie unten aufgezählt.  
1777/99

 (Application No.) (Aktenzeichen) <small>1777/99</small>	 (Filing Date) (Anmeldetag)
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 (Application No.) (Aktenzeichen) <small>1777/99</small>	 (Filing Date) (Anmeldetag)
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Ich beanspruche hiermit die mir unter Title 35, US-Code, § 120 zustehenden Vorteile aller unten aufgeführten US-Patentanmeldungen bzw. § 365(c) aller PCT internationalen Anmeldungen, welche die Vereinigten Staaten von Amerika benennen, und erkenne, insofern der Gegenstand eines jeden früheren Anspruchs dieser Patentanmeldung nicht in einer US-Patentanmeldung, bzw. PCT internationalen Anmeldung in einer gemäß dem ersten Absatz von Title 35, US-Code, § 112 vorgeschriebenen Art und Weise offenbart wurde, meine Pflicht zur Offenbarung jeglicher Informationen an, die zur Prüfung der Patentfähigkeit in Einklang mit Title 37, Code of Federal Regulations, § 1.56 von Belang sind und die im Zeitraum zwischen dem Anmeldetag der früheren Patentanmeldung und dem nationalen oder im Rahmen des Vertrags über die Zusammenarbeit auf dem Gebiet des Patentwesens (PCT) gültigen internationalen Anmeldetags bekannt geworden sind.

 (Application No.) (Aktenzeichen)	 (Filing Date) (Anmeldetag)
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 (Application No.) (Aktenzeichen)	 (Filing Date) (Anmeldetag)
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Ich erkläre hiermit, daß alle in der vorliegenden Erklärung von mir gemachten Angaben nach bestem Wissen und Gewissen der Wahrheit entsprechen und ferner daß ich diese eidestatthafte Erklärung in Kenntnis dessen ablege, daß wissentlich und vorsätzlich falsche Angaben oder dergleichen gemäß § 1001, Title 18 des US-Code strafbar sind und mit Geldstrafe und/oder Gefängnis bestraft werden können und daß derartige wissentlich und vorsätzlich falsche Angaben die Rechtswirksamkeit der vorliegenden Patentanmeldung oder eines aufgrund deren erteilten Patentes gefährden können.

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designates at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority not claimed  
Priorität nicht beansprucht

September 29, 1999 (Day/Month/Year Filed) (Tag/Monat/Jahr der Anmeldung)	<input type="checkbox"/>
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 (Day/Month/Year Filed) (Tag/Monat/Jahr der Anmeldung)	<input type="checkbox"/>
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I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

 (Status)(patented, pending, abandoned) (Status) patentiert, schwebend, aufgegeben)
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 (Status)(patented, pending, abandoned) (Status) patentiert, schwebend, aufgegeben)
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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application of any patent issued thereon.

**German Language Declaration**

**VERTRETUNGSVOLLMACHT:** Als benannter Erfinder beauftrage ich hiermit den (die) nachstehend aufgeführten Patentanwalt (Patentanwälte) und/oder Vertreter mit der Verfolgung der vorliegenden Patentanmeldung sowie mit der Abwicklung aller damit verbundenen Angelegenheiten vor dem US-Patent- und Markenamt:

(Name(n) und Registrationsnummer(n) auflistun)

John H. Mion, Reg. No. 18,879; Thomas J. Macpeak, Reg. No. 19,292; Robert J. Seas, Jr., Reg. No. 21,092; Darryl Mexic, Reg. No. 23,063; Robert V. Sloan, Reg. No. 22,725; Peter D. Olexy, Reg. No. 24,513; J. Frank Osha, Reg. No. 24,625; Waddell A. Biggart, Reg. No. 24,861; Louis Gubinsky, Reg. No. 24,835; Neil B. Siegel, Reg. No. 25,200; David J. Cushing, Reg. No. 28,703; John R. Inge, Reg. No. 26,916; Joseph J. Ruchi, Jr., Reg. No. 26,577; Sheldon I. Landsman, Reg. No. 25,430; Richard C. Turner, Reg. No. 29,710; Howard L. Bernstein, Reg. No. 25,665; Alan J. Kasper, Reg. No. 25,426; Kenneth J. Burchfiel, Reg. No. 31,333; Gordon Kit, Reg. No. 30,764; Susan J. Mack, Reg. No. 30,951; Frank L. Bernstein, Reg. No. 31,484; Mark Boland, Reg. No. 32,197; William H. Mandir, Reg. No. 32,156; Brian W. Hannon, Reg. No. 32,778; Abraham J. Rosner, Reg. No. 33,276; Bruce E. Krämer, Reg. No. 33,725; Paul F. Neils, Reg. No. 33,102; Brett S. Sylvester, Reg. No. 32,765; Robert M. Masters, Reg. No. 35,603; George F. Lehnigk, Reg. No. 36,359; John T. Callahan, Reg. No. 32,607; Steven M. Gruskin, Reg. No. 36,818; Peter A. McKenna, Reg. No. 38,551 and Edward F. Kenehan, Reg. No. 28,962.

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agents(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith (list name and registration number)

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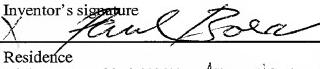
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Vor- und Zuname des einzigen oder ersten Erfinders	Full name of sole or first inventor <u>Paul BÖESCH</u>		
Unterschrift des Erfinders	Datum	Inventor's signature 	Date <u>08/05/01</u>
Wohnsitz	Residence Dickenstrasse 39, 9642 Ebnet-Kappel, Switzerland		
Staatsangehörigkeit	Citizenship Swiss		
Postanschrift	Post Office Address same as above		
Vor- und Zuname des zweiten Miterfinders (falls zutreffend)	Full name of second joint inventor, if any		
Unterschrift des zweiten Erfinders	Datum	Second inventor's signature	Date
Wohnsitz	Residence		
Staatsangehörigkeit	Citizenship		
Postanschrift	Post Office Address		

(Im Falle dritter und weiterer Miterfinder sind die entsprechenden Informationen und Unterschriften hinzuzufügen.)

(Supply similar information and signature for third and subsequent joint inventors.)